U.S. Department
of Transportation

**Research and
Special Programs
Administration**

400 Seventh Street, S.W.
Washington, D.C. 20590

DEC - 4 2000

Mr. Donald Leith
APS
Mail Station 7902
P.O. Box 52034
Phoenix, AZ 85072-2034

Ref. No. 00-0213

Dear Mr. Leith:

This is in response to your letter dated July 28, 2000, regarding the overpacking of packages of Class 7 (radioactive) material. I apologize for the delay in responding, I hope it has not caused you any inconvenience.

In your letter you describe a scenario where an overpack contains two packages of Class 7 material that are appropriately labeled RADIOACTIVE YELLOW-II. Based on the requirements of 49 CFR 173.448(g)(1) and 172.403 the overpack is labeled RADIOACTIVE YELLOW-III. Based on that scenario you ask the following questions, which are paraphrased below for ease of response:

Q1) For the above described scenario, is the transport vehicle required to be placarded, and should the category of labels and transport index described on the shipping papers be those of the inner packages or the overpack?

A1) In accordance with the requirements of § 172.504(a), any quantity of radioactive material labeled RADIOACTIVE YELLOW III must be transported in a freight container, unit load device, transport vehicle or rail car that is placarded RADIOACTIVE. Therefore, a transport vehicle carrying an overpack that is labeled RADIOACTIVE YELLOW-III, even though it contains packages of radioactive materials that are labeled RADIOACTIVE YELLOW-II or WHITE-I, is required to be placarded in accordance with § 172.504.

Section 172.203(d) requires that the shipping paper for each package of radioactive material must include the activity level, the category of label applied to each package, and the transport index assigned to each package. For the scenario described above, that information must be based on the individual packages contained in the overpack and not a summation of all the packages within the overpack. For example, in the scenario above, you must identify the presence of two RADIOACTIVE YELLOW-II labeled packages and not one RADIOACTIVE YELLOW-III labeled package.

00-0213

173.448

Q2) If the overpack does dictate hazard communication, does it affect how you determine if a package contains a reportable quantity?

A2) Under § 171.8, a hazardous substance is defined as a material, including its mixtures and solutions, that: (1) is listed in Appendix A to § 172.101 of the HMR; (2) is in a quantity, in one package, which equals or exceeds its reportable quantity (RQ); and (3) is in a concentration by weight which equals or exceeds the concentration corresponding to the RQ of the material, as shown in the table under § 171.8. Under the scenario described above, you must evaluate each inner package separately to determine if it contains a hazardous substance. You do not sum the activities of the radionuclides contained in each inner package of the overpack to determine whether there is a reportable quantity of a hazardous substance.

Q3) Does § 173.448(g) overrule §§ 173.25(a) and 173.400(a), which exempts overpacks from labeling requirements if the labels on the inner packagings are visible?

A3) Yes.

I hope this information is helpful.

Sincerely,

Thomas G. Allan

Thomas G. Allan
Senior Transportation Regulations Specialist
Office of Hazardous Materials Standards

Gale Gotsky
§ 173.448(g)
Placarding/Labeling
RAM
00-0213

A subsidiary of Pinnacle West Capital Corporation

Name: Donald T. Leith
Title: RP Technical Advisor Sr.
Palo Verde Nuclear
Generating Station

Tel. 623-393-5109
Fax 623-393-6275
e-mail dleith@apsc.com

Mail Station 7902
PO Box 52034
Phoenix, Arizona 85072-2034

July 28, 2000

Mr. Edward Mazzullo, Director
Office of Hazardous Material Standards
U.S. Department of Transportation

Dear Sir,

APS respectfully requests an interpretation of the general transportation requirements of 49 CFR 173.448(g) for labeling an overpack used to consolidate individual packages of Class 7 radioactive materials.

APS is currently preparing to transport two radioactive sources in a vendor supplied overpack to the original manufacturer. Each source consists of 600 mCi of Cs-137. Each source is contained in an integral housing, both of which are appropriately certified as DOT Spec 7A Type A general packagings. Each housing is packaged, marked, and labeled in accordance with the requirements of Subchapter C, per Part173.448(g). Accordingly, each housing bears the Radioactive Yellow-II label, based on each having a maximum surface radiation level of 30 mrem/hr and a transport index of 0.8. They are being transported as Radioactive Material, n.o.s., UN 2982. Both source housings are mechanically secured to the inside base of a plywood overpack for shipment. The overpack is marked in accordance with Subpart D of Part 172 and 49 CFR 173.25(a).

Per the requirements of 49 CFR 173.448(g)(1), the overpack must be labeled as prescribed in Part 172.403 with noted exceptions. Since each inner package contains the same radionuclide, the "contents" entry is Cs-137. The sum of the Becquerels (Curies) contained within, for the "activity" entry, is 44.4 GBq (1.2 Ci). The question arises with the determination of the transport index for the overpack and the resultant category of labels. If the transport index values for the inner packages are summed per Part 173.448(g)(1)(A), or the transport index is measured in accordance with Part 173.448(g)(1)(B), the result is a transport index for the overpack of 1.6 or 1.2 respectively. Either transport index appears to require Yellow-III labels on the overpack and to require the conveyance to be placarded. Since an overpack is not a "packaging", but an enclosure used to consolidate packages for convenience of handling, can the overpack dictate the hazard communications? Should the category of labels and transport index described on the shipping papers be those of the inner packages or the overpack? If the overpack does dictate the communications, does the Yellow-III label with a total activity of 1.2 Ci of Cs-137 require the communication of a reportable quantity of radionuclides? And finally, does Part 173.448(g) overrule Parts 173.25(a) and 172.400(a), which exempts overpacks from labeling requirements if the labels on the inner packages are visible?

Sincerely,

Donald T. Leith

Donald T. Leith